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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,562

11/16/2005

Koh Ishigami

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EXAMINER

ROTH, LAURA K

ART UNIT

PAPER NUMBER

2852

MAIL DATE

DELIVERY MODE

02/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,562	Applicant(s) ISHIGAMI ET AL.	
	Examiner Laura K. Roth	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/24/05 & 12/12/05</u> . | 6) <input type="checkbox"/> Other: ____. |

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Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it exceeds the word limit.

Correction is required. See MPEP § 608.01(b).

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claims 1-6 are objected to because of the following informalities:

- Claims 1, 2, 4, and 5 fail to terminate in a period; all claims must end in a period. The formulas come after the ending period.
- The phrase "2" should be rewritten as - two- - (cl.1 & 4, ln.5).
- The phrase "60" should be rewritten as - 60°C - - (cl.3 & 6, ln.) .

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 4 and subsequently claims 5-6, dependent upon 4, are single means claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uehara et al. (US Pub. 2004/0057741) in view of Tanaka et al. (US Pub. 2005/0042534).

Regarding claim 1, Uehara et al. (US Pub. 2004/0057741) teach a fixing method, comprising heat-pressure- fixing an unfixed toner image formed on a recording medium by using fixing means (via fig.1), wherein: the unfixed toner image is fixed when the recording medium passes through at least 2 fixing units arranged in series in a conveying direction of the recording medium (see fig.1).

Regarding claim 4, Uehara et al. (US Pub. 2004/0057741) teach a fixing device, comprising fixing means for heat-pressure-fixing an unfixed toner image formed on a recording medium (via fig.1), wherein: the unfixed toner image is fixed when the recording medium passes through at least 2 fixing units arranged in series in a conveying direction of the recording medium (see fig.1).

Regarding claims 1, 2, 4, and 5, Uehara et al. (US Pub. 2004/0057741) teach a maximum temperature on the recording medium when the recording medium passes through a first fixing unit is denoted by T1 (para.0079: 150-200 degrees), a maximum temperature on the recording medium when the recording medium passes through a

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second fixing unit is denoted by T2 (para.0130 & para.0143: 50 to 100 degrees), a minimum temperature on the recording medium during a time period commencing on ejection of the recording medium from the first fixing unit and ending on entry of the recording medium into the second fixing unit is denoted by t (para.0098: travel time, 4 seconds, temperature equal to or greater than 80 degrees).

However, Uehara et al. (US Pub. 2004/0057741) fail to teach a flow tester softening temperature, a flow starting temperature, or a flow tester $\frac{1}{2}$ method melting temperature of toner and fails to teach the toner containing a release agent.

Regarding claims 1, 2, 4, and 5, Tanaka et al. (US Pub. 2005/0042534) teach a toner with a flow tester softening temperature of the toner is denoted by Ts (para.0099: 40 to 70 degrees), and a flow starting temperature of the toner is denoted by Tfb (table 4: 73-97 degrees), and a flow tester $\frac{1}{2}$ method melting temperature of the toner is denoted by $T_{1/2}$ (para.0094, Para.0040: 60 to 130 Degrees); and the toner contains a release agent (para.0111).

Regarding claims 3 and 6, Tanaka et al. (US Pub. 2005/0042534) teach a toner wherein a maximum value of a maximum endothermic peak is found in a temperature range of 60 to 140°C in an endothermic curve in differential scanning calorimetry on the toner (para.0033).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the apparatus of Uehara et al. (US Pub. 2004/0057741) by using the toner of Tanaka et al. (US Pub. 2005/0042534) in order to provide for an apparatus with

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good low-temperature image fixing properties and good hot off-set prevention (para 0014).

Via the combination, the following formulas can be satisfied when a toner is selected which exists in the lower possible ranges of T_s and T_{fb} :

$T_1 > T_{fb}$ formula (1)

$T_2 > t > T_s$ formula (2)

$T_2 > T_{1/2}$ formula (3) .

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura K. Roth whose telephone number is (571)272-2154. The examiner can normally be reached on Monday-Friday, 7:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David M. Gray can be reached on (571)272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M Gray/
Supervisory Patent Examiner, Art Unit 2852

/LKR/
2/20/2008